



STATE OF DELAWARE  
DEPARTMENT OF NATURAL RESOURCES &  
ENVIRONMENTAL CONTROL  
**DIVISION OF WATER RESOURCES**  
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DOVER, DELAWARE 19901

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Amendment to Water Quality Certification:  
WQ-071/13

Date of Amendment: *September 21, 2016*

Expiration Date: 12/18/2018

**WATER QUALITY CERTIFICATION AMENDMENT**

**GRANTED TO:**

**Peter R. Blum  
U.S. Army Corps of Engineers**

**TO CONDUCT DREDGING USING ECONOMIC LOADING:**

**To dredge using economic loading, the practice of filling the dredge hopper past the point of overflow, in Sub-Reaches E-1, E-3, and E-4, of the Delaware River Main Channel,**

**Located in the Delaware River, approximately extending from Bowers Beach to Smyrna, in Kent County, Delaware, and**

**TO DISPOSE OF DREDGED MATERIAL:**

**To dispose of the dredged material from Reaches E-1 through E-6 in the Confined Disposal Facility on Artificial Island,**

**Located on the eastern shore of the Delaware River, in Salem County, New Jersey and New Castle County, Delaware.**

This Amendment to Water Quality Certification, WQ-071/13, is issued in response to the request submitted by the Corps of Engineers in a letter dated March 3, 2016 to use economic loading in specific Reach E Sub-Reaches of the Delaware River containing high percentages of coarse-grained materials. The Corps of Engineers' request is based on an analysis of the turbidity monitoring data from the dredging and economic loading operations in Reaches E-6 through E-9 in the lower reaches of Delaware Bay and subsequent sampling, which was submitted for review to the Wetlands and Subaqueous Lands Section.

This Amendment is subject to the General Conditions in the original Water Quality Certification (WQ-071/13) and the following revised Special Conditions:

*Delaware's good nature depends on you!*

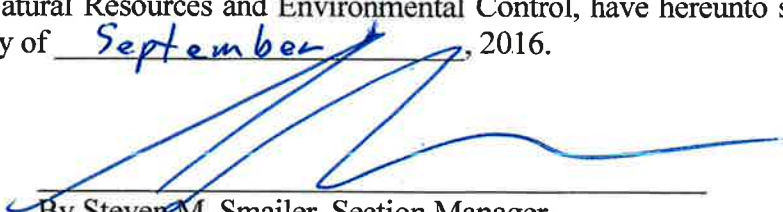
## SPECIAL CONDITIONS

1. The Amendment is valid until December 18, 2018, which is the original expiration date of this amended Water Quality Certification, WQ-071/13.
2. In order to avoid potential impacts to oyster bed spawning and spat settlement, economic loading is prohibited during the period between June 15<sup>th</sup> and September 15<sup>th</sup> of any given year.
3. This Amendment authorizes the use of economic loading for dredging in the Sub-Reaches E-1, E-3, and E-4 in Reach E of the Main Channel of the Delaware River, with the exception of the time period identified in Special Condition 2.
4. This Amendment does not authorize economic loading in Sub-Reaches, E2 and E5.
5. The following modifications shall be incorporated into the previously approved Monitoring Plan entitled *Section 01 57 19 Turbidity Monitoring*, as revised on June 7, 2013 and July 2, 2013:
  - The down-current monitoring locations specified in *Section 3.2.2 Monitoring Locations* shall be modified as follows:
    - o Sub-Reach E-1: 200 meters
    - o Sub-Reach E-3 (from STA 374800 to STA 382500): 200 meters
    - o Sub-Reach E-3 (from STA 382500 to STA 390200): 500 meters
    - o Sub-Reach E-4: 300 meters
  - In conjunction with the turbidity monitoring, collect Total Suspended Sediment samples at depths of 1 meter and 7 meters at the start, midpoint, and end of each overflow event.
  - All turbidity monitoring shall be submitted as soon as it is possible (approximately within two (2) days) to the Wetlands and Subaqueous Section during the dredging period in reaches where economic loading is employed. The Total Suspended Solids shall be reported to the Wetlands and Subaqueous Lands Section within 15 days of the date of collection.
  - If the Nephelometric Turbidity Units (NTU) sampling results at any of the the 7-meter depth sample exceeds 15 NTUs above pre-dredging background, economic loading shall be discontinued for the current dredging load.
6. Oyster bed monitoring shall be performed to provide data of the potential effect of the dredging on oyster beds. The following monitoring shall be performed:
  - In-situ turbidity monitoring shall be completed at the six (6) following Delaware oyster beds locations:

BED	Latitude	Longitude
Over-The-Bar	39° 15.779'	75° 22.908'
Black Can-1	39° 16.129'	75° 21.833'
Red Can-1	39° 14.004'	75° 20.032'
Lower Middle	39° 13.998'	75° 21.572'
Black Can -2	39° 15.603'	75° 21.264'
Red Can -2	39° 13.674'	75° 20.411'

- Pre-dredging, background, turbidity monitoring shall begin as soon as practicable, but shall be undertaken for a period of at least one (1) month prior to the start of dredging and continue throughout the dredging operations. Post-dredging monitoring shall continue for at least three (3) months after the cessation on dredging operations.
  - The in-situ monitoring data shall be downloaded and be submitted electronically to the Wetlands and Subaqueous Lands Section monthly.
7. In addition, the Bushek et al. 2012 – 2015. USACE Oyster and Water Quality Study for the Delaware River Main Channel Deepening Project shall be continued for two monitoring seasons (April through November of each calendar year). The first monitoring season will begin in the month of April following the initiation of the dredging activities in Upper Reach E.
  8. The monitoring requirements have been determined for dredging using a hydraulic dredge. If other dredging methods are proposed, such as mechanical dredging, the permittee shall contact the Wetlands and Subaqueous Lands Section prior to use of these dredge methods to see if these requirements should be modified.
  9. The permittee shall perform pre- and post-dredging bathymetric surveys of the dredged channel. A copy of the results shall be submitted on a disk to the Wetlands and Subaqueous Lands Section within two (2) weeks of the Corps' receipt of the data.
  10. Blue crabs are a species of biological and economic importance to the State of Delaware. A portion of the blue crab population overwinters in the shipping channel during winter months. To minimize impacts to overwintering blue crabs, dredging shall be completed, as practicable, outside of the period December 1 to March 31. For any dredging activity occurring between December 1 and March 31, the Corp shall provide notice of the proposed dredging schedule and dredging location 30 days prior to dredging to John Clark, Environmental Program Administrator, Delaware Division of Fish and Wildlife, Fisheries Section at (302) 739-9914 or John.Clark@state.de.us. The purpose of this notification is to provide an opportunity to harvest crabs from the channel prior to maintenance dredging.
  11. To avoid impacts to endangered species, the permittee shall comply with Terms and Conditions which implement Reasonable and Prudent Measures as described in the National Marine Fisheries Service (NMFS) November 2015 Biological Opinion (and any subsequent amendments). All reports for submission to the NMFS per the reporting requirements outlined in the Biological Opinion shall also be submitted to the Division of Fish and Wildlife. Observations of and interactions with Endangered Species Act species shall be reported to Joseph Rogerson, Program Manager, Delaware Division of Fish and Wildlife, Species Conservation and Research Program, at (302) 739-9912 or Joseph.Rogerson@state.de.us.
  12. The dredge effluent shall be detained in the confined disposal facility for sufficient time to allow for settling of the sediments suspended in the dredge spoil effluent.

IN WITNESS WHEREOF, I, Steven M. Smailer, the duly authorized representative of David S. Small, Secretary, Department of Natural Resources and Environmental Control, have hereunto set my hand this 21<sup>st</sup> day of September, 2016.



By Steven M. Smailer, Section Manager  
the duly authorized representative of the Secretary of the  
Department of Natural Resources and Environmental Control



Joanne M. Lee, Environmental Scientist  
Wetlands and Subaqueous Lands Section